October 18, 2002

RE: BP Products North America, Inc 089-15500-00003
TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for consideration at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

(over)

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
Administrator, Christine Todd Whitman
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR QUALITY

BP Products North America, Inc.
2815 Indianapolis Blvd.
Whiting, IN 46394-2197

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Significant Source Modification 089-14630-00003	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: November 30, 2001
Significant Permit Modification 089-15202-00003	Issuance Date: April 24, 2002
Significant Source Modification 089-15500-00003	(pages were renumbered as 1 through 84) Pages Amended: 13, 18, 19, 63
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: October 18, 2002

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a petroleum refinery.

Responsible Official:	Mr. Ashok K. Jhawar
Source Address:	2815 Indianapolis Boulevard, Whiting, IN 46394-2197
Mailing Address:	2815 Indianapolis Boulevard, Whiting, IN 46394-2197
Phone Number:	219-473-3179
SIC Code:	2911
County Location:	Lake
County Status:	Nonattainment for PM_{10}, Ozone and SO_2 Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under Emission Offset Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This source modification involves the following emission units and pollution control devices:

(a) The #12 Pipe Still (12 PS), rated at 336,000 barrels per day, which includes:

(1) Process Heaters H-1AN and H-1AS, each with a burner capacity of 121.5 million Btu per hour.

(2) Process Heater H-1B, with a burner capacity of 243 million Btu per hour.

(3) Process Heater H-2, with a burner capacity of 174 million Btu per hour.

(4) Process Heaters H-1CN and H-1CS, each with a burner capacity of 120 million Btu per hour.

(5) Process Heater H-1CX, with a burner capacity of 410 million Btu per hour.

(6) One (1) atmospheric separation tower, identified as the "Primary Tower."

(7) One (1) vacuum separation tower, identified as the "Vacuum Tower."

(8) One (1) vacuum hot well.

(9) Associated valves, flanges, compressors, pumps, and transfer lines.

(b) The Catalytic Feed Hydrotreating Unit (CFHU), rated at 100,000 barrels per day, which includes:

(1) Preheater Furnace F-801 A/B, with a burner capacity of 66.5 million Btu per hour, exhausting to Stack 171-01.

(2) Preheater Furnace F 801 C, with a burner capacity of 60.0 million Btu per hour, exhausting to Stack 171-02.

(3) One hydrogen system with four (4) compressors:
  (A) Compressors K-801 A, B, and C, each rated at 40 million standard cubic feet per day.
  (B) Compressor K-801 D, rated at 30 million standard cubic feet per day.

(4) One hydraulics system with pipes, pumps, and associated equipment.

(c) The #11 Pipe Still (11 PS) process heaters, which include:

(1) Process Heater H-1X, with a burner capacity of 250 million Btu per hour.

(2) Process Heater H-2, with a burner capacity of 45 million Btu per hour.

(3) Process Heater H-3, with a burner capacity of 55 million Btu per hour.

(4) Process Heaters H-101, H-102, H-103 and H-104, with a total burner capacity of 200 million Btu per hour.

(5) Process Heater H-200, with a burner capacity of 249.5 million Btu per hour.

(6) Process Heater H-300, with a burner capacity of 180 million Btu per hour.

(d) The Catalytic Refining Unit (CRU) process heaters, which include:

(1) Process Heater F-101, with a burner capacity of 72 million Btu per hour.

(2) Process Heater F-102A, with a burner capacity of 60 million Btu per hour.

(e) The Isomerization Unit Process Heater H-1, with a burner capacity of 190 million Btu per hour.

(f) The #3 Ultraformer Unit process heaters, which include:

(1) Process Heater H-1, with a burner capacity of 240 million Btu per hour.

(2) Process Heater H-2, with a burner capacity of 185 million Btu per hour.

(3) Process Heater F-7, with a burner capacity of 23 million Btu per hour.

(g) The #4 Ultraformer Unit process heaters, which include:

(1) Process Heater F-1, with a burner capacity of 68 million Btu per hour.

(2) Process Heater F-8A, with a burner capacity of 163 million Btu per hour.

(3) Process Heater F-8B, with a burner capacity of 163 million Btu per hour.

(4) Process Heater F-2, with a burner capacity of 286 million Btu per hour.

(5) Process Heater F-3, with a burner capacity of 242 million Btu per hour.

(6) Process Heater F-4, with a burner capacity of 137 million Btu per hour.

(7) Process Heater F-5, with a burner capacity of 99 million Btu per hour.

(8) Process Heater F-6, with a burner capacity of 49 million Btu per hour.

(9) Process Heater F-7, with a burner capacity of 52 million Btu per hour.

(h) The Aromatics Recovery Unit (ARU) process heaters, which include:

(1) Process Heater F-200A, with a burner capacity of 249.5 million Btu per hour.

(2) Process Heater F-200B, with a burner capacity of 249.5 million Btu per hour.

(i) The Blending Oil Unit (BOU) Process Heater F-401, with a burner capacity of 35 million Btu per hour.

(j) The #1 Stanolind Power Station (1SPS) boilers, which include:

(1) Boiler #2, with a burner capacity of 240 million Btu per hour.

(2) Boiler #3, with a burner capacity of 265 million Btu per hour.

(3) Boiler #4, with a burner capacity of 265 million Btu per hour.

(4) Boiler #5, with a burner capacity of 265 million Btu per hour.

(5) Boiler #6, with a burner capacity of 265 million Btu per hour.

(6) Boiler #7, with a burner capacity of 265 million Btu per hour.

(7) Boiler #8, with a burner capacity of 240 million Btu per hour.

(k) The #3 Stanolind Power Station (3SPS) boilers, which include five (5) boilers, designated as Boilers #1, #2, #3, #4, and #6, each with a burner capacity of 575 million Btu per hour.

(l) The Oil Movements and Product Storage heaters, which include:

(1) Asphalt Heater F-1 (formerly known as the "F-1 Berry Lake Distillate Heater") with a burner capacity of 13 million Btu per hour.

(2) Marine Docks Heater F-100, with a burner capacity of 7 million Btu per hour.

(3) Steiglitz Park Heater F-2, with a burner capacity of 28 million Btu per hour.

(m) The Hydrogen Unit Process Heater B-501, with a burner capacity of 366.3 million Btu per hour.

(n) The Distillate Desulfurization Unit (DDU) process heaters, which include:

(1) Process Heater WB-301, with a burner capacity of 64.8 million Btu per hour.

(2) Process Heater WB-302, with a burner capacity of 63.7 million Btu per hour.

(o) Fluidized Catalytic Cracking Unit #500 (FCU 500), rated at 120,000 barrels per day, which includes:

(1) One (1) reactor, where preheated oil feed is mixed with granular catalyst in a flowing stream. This process produces cracked hydrocarbon products and coats the catalyst with coke. Cracked products are sent to a fractionating tower. Spent catalyst is sent to a catalyst regenerator.

(2) One (1) fractionating tower, which separates the cracked products into individual components and directs them to other facilities.

(3) One (1) catalyst regenerator, where coke is burned off in order to allow the catalyst to be reused. Particulate emissions are controlled by one (1) electrostatic precipitator, then exhausted to a stack identified as 230-01.

(4) One (1) flare, used for emergency situations. Emissions are exhausted to a stack identified as 230-02.

(5) Three (3) catalyst storage bins, one each for spent, equilibrium, and fresh catalyst. Particulate emissions from the spent catalyst storage bin, identified as "Bin F-52," are controlled by one (1) cyclone, then exhausted to a stack identified as 230-03.

(6) Associated pumps, valves, and flanges.

(p) Fluidized Catalytic Cracking Unit #600 (FCU 600), rated at 80,000 barrels per day, which includes:

(1) One (1) reactor, where preheated oil feed is mixed with granular catalyst in a flowing stream. This process produces cracked hydrocarbon products and coats the catalyst with coke. Cracked products are sent to a fractionating tower. Spent catalyst is sent to a catalyst regenerator.

(2) One (1) fractionating tower, which separates the cracked products into individual components and directs them to other facilities.

(3) One (1) catalyst regenerator, where coke is burned off in order to allow the catalyst to be reused. Particulate emissions are controlled by one (1) electrostatic precipitator. Emissions are then directed to a selective catalytic reduction (SCR) system, then exhausted to a stack identified as 240-01.

(4) Two (2) catalyst storage bins, one each for equilibrium and fresh catalyst. (Spent catalyst is stored in Bin F-52, which is associated with FCU 500.)

(5) Associated pumps, valves, and flanges.

(6) One (1) selective catalytic reduction (SCR) system, which chemically reduces nitrogen oxide emissions by reaction with injected ammonia. The SCR system also includes aqueous ammonia storage and handling equipment.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This source modification also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) heat exchanger, utilizing waste heat from FCU 500 for heat input.

(b) One (1) heat exchanger, utilizing waste heat from FCU 600 for heat input.

(c) One (1) power recovery turbine, which generates power as the flue gases in FCU 500 expand from approximately 30 psig to atmospheric pressure.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because it is a major source, as defined in 326 IAC 2-7-1(22).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

(e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

(1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.

(2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.

(3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

B.5 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.7(a), the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

(c) Actual start-up date (within 15 days after such date); and

(d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as

they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)] [326 IAC 1-6-4]

(a) The Permittee shall be responsible for operating and maintaining all emission units and emission control equipment in compliance with all applicable rules. Emissions temporarily exceeding the standards which are due to malfunctions of emission units or emission control equipment shall not be considered a violation of the rules provided the source demonstrates that:

(1) All reasonable measures were taken to correct, as expeditiously as practicable, the conditions causing the emissions to exceed the allowable limits, including the use of off-shift and over-time labor, if necessary.

(2) All possible steps were taken to minimize the impact of the excessive emissions on ambient air quality which may include, but not be limited to, curtailment of operation and/or shutdown of the facility.

(3) Malfunctions have not exceeded five percent (5%), as a guideline, of the normal operational time of the facility.

(4) The malfunction is not due to the negligence of the operator.

(b) Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that an emission unit vented to the control equipment is in operation and shall not be bypassed, unless:

(1) It is necessary to prevent damage to equipment or injury to persons; or

(2) There is a malfunction and the requirements set forth in part (a) of this condition are met.

(c) Excessive emissions shall be brought into compliance with all practicable speed, and appropriate action, including those actions set forth above, shall be taken:

(1) to correct the conditions causing such emissions to exceed applicable limits;

(2) to reduce the frequency of occurrence of such conditions,

(3) to minimize the amount by which said limits are exceeded, and

(4) to reduce the length of time for which said limits are exceeded.

These actions shall be initiated as expeditiously as practicable.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.10 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly

signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

C.11 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.12 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum

of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.13 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #12 Pipe Still (12 PS), rated at 336,000 barrels per day, which includes:

(a) Process Heaters H-1AN and H-1AS, each with a burner capacity of 121.5 million Btu per hour.

(b) Process Heater H-1B, with a burner capacity of 243 million Btu per hour.

(c) Process Heater H-2, with a burner capacity of 174 million Btu per hour.

(d) Process Heaters H-1CN and H-1CS, each with a burner capacity of 120 million Btu per hour.

(e) Process Heater H-1CX, with a burner capacity of 410 million Btu per hour.

(f) One (1) atmospheric separation tower, identified as the "Primary Tower."

(g) One (1) vacuum separation tower, identified as the "Vacuum Tower."

(h) One (1) vacuum hot well.

(i) Associated valves, flanges, compressors, pumps, and transfer lines.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1:

(a) PM_{10} emissions from Heaters H-1AN, H-1AS, H-1B and H-2 shall not exceed 0.025 pounds per million Btu heat input and a total of 16.348 pounds per hour. The limit of 0.025 pounds per million Btu heat input is the more stringent requirement; it equates to a potential to emit 53.22 tons of PM_{10} per year for the total of heaters.

(b) PM_{10} emissions from Heaters H-1CN and H-1CS shall not exceed 0.004 pounds per million Btu heat input and 0.444 pounds per hour for each heater. The limit of 0.444 pounds per hour is the more stringent requirement; it equates to a potential to emit 1.94 tons of PM_{10} per year for each heater.

(c) PM_{10} emissions from Heater H-1CX shall not exceed 0.004 pounds per million Btu heat input and 0.924 pounds per hour. The limit of 0.924 pounds per hour is the more stringent requirement; it equates to a potential to emit 4.05 tons of PM_{10} per year.

D.6.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Heaters H-1AN, H-1AS, H-1B and H-2 shall not exceed 0.32 pounds per million Btu heat input. This limit equates to a potential to emit 574.66 tons of sulfur dioxide per year for the total of heaters.

(b) Sulfur dioxide emissions from Heaters H-1CN, H-1CS and H-1CX shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 17.34 tons of sulfur dioxide per year for each of Heaters H-1CN and H-1CS, and 59.26 tons of sulfur dioxide per year for Heater H-1CX.

D.6.3 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to Construction Permit 089-2055, issued on March 12, 1992, nitrogen oxide emissions from Process Heater H-1CX shall be controlled by low-NO_X burners having an emission rate of 0.10 pounds per million Btu heat input or less. This limit equates to a potential to emit 179.58 tons of nitrogen oxides per year.

Furthermore, the following emission units shall remain inoperative unless new approval is obtained:

(a) Propane Dewaxing Unit
(b) #2 and #3 Asphalt Oxidizers

This condition renders the requirements of PSD as not applicable for nitrogen oxides.

D.6.4 Petroleum Refineries [326 IAC 8-4-2]

Pursuant to 326 IAC 8-4-2, the vacuum tower shall not emit any noncondensible VOC from condensers, hot wells or accumulators.

D.6.5 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

(a) The fuel gas burned by Heater H-1CX shall comply with this condition on and after permit issuance.

(b) The fuel gas burned by all other process heaters shall comply with this condition on and after December 31, 2001.

D.6.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility and its control devices.

Compliance Determination Requirements

D.6.7 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL:

(a) Fuel oil shall not be used as fuel for the #12 Pipe Still.

(b) Nitrogen oxide emissions from Heater H-2 shall be controlled by low-NO_X burners having an emission rate of 0.044 pounds per million Btu or less. This limit equates to a potential to emit 33.53 tons of nitrogen oxides per year for Heater H-2.

D.6.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.9 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

D.6.10 Leaks from Petroleum Refineries; Monitoring; Reports [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the emission source shall develop and conduct a monitoring program addressing the guidelines contained in 326 IAC 8-4-8 (c) through (m).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.11 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.6.12 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.6.13 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.6.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type,
(3) average fuel gravity for each fuel type, and
(4) total fuel usage for each type.

(b) To document compliance with Condition D.6.9, the Permittee shall maintain records for the leak monitoring program. These records shall include, at a minimum, the data in 326 IAC 8-4-8(k);

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.14 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for the pipe still, and
(2) the total daily fuel usage for each fuel type.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Catalytic Feed Hydrotreating Unit (CFHU), rated at 100,000 barrels per day, which includes:

(a) Preheater Furnace F-801 A/B, with a burner capacity of 66.5 million Btu per hour, exhausting to Stack 171-01.

(b) Preheater Furnace F-801 C, with a burner capacity of 60.0 million Btu per hour, exhausting to Stack 171-02.

(c) One hydrogen system with four (4) compressors:
(1) Compressors K-801 A, B, and C, each rated at 40 million standard cubic feet per day.
(2) Compressor K-801 D, rated at 30 million standard cubic feet per day.

(d) One hydraulics system with pipes, pumps, and associated equipment.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from the CFHU shall not exceed 0.004 pounds per million Btu heat input and 0.246 pounds per hour.

D.7.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1(c)(U), sulfur dioxide emissions from the CFHU shall not exceed 0.035 pounds per million Btu heat input.

D.7.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J), the Permittee shall not burn in the preheater furnaces any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility and its control devices.

Compliance Determination Requirements

D.7.5 Legal Consent Decree / Emission Offset [326 IAC 2-3]

Pursuant to Consent Decree 2:96 CV 095 RL:

(a) Fuel oil shall not be used as fuel for the CFHU.

(b) Nitrogen oxide emissions from Furnace F-801C shall be controlled by ultra low-NO_X burners having an emission rate of 0.040 pounds per million Btu or less. This limit will allow the burners to meet the requirements of "current generation" ultra low NO_X burners in Paragraph 15.D(i) of the Consent Decree. This limit also renders the requirements of Emission Offset as not applicable.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.6 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when this facility is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned in the preheater furnaces.

D.7.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which Preheater Furnace F 801 C will be operated, but not later than 180 days after initial startup, the Permittee shall conduct performance tests for

(a) H_2S concentration in the fuel gas, and

(b) Nitrogen oxide emissions from Preheater Furnace F-801 C

and furnish the Commissioner a written report of the results of such performance tests.

D.7.8 Leaks from Petroleum Refineries; Monitoring; Reports [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the emission source shall develop and conduct a monitoring program addressing the guidelines contained in 326 IAC 8-4-8 (c) through (m).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.9 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.7.10 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S, as measured by the H_2S continuous monitoring system, exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.7.11 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall maintain daily records of the following for the CFHU:

(1) each fuel type used,
(2) average sulfur content for each fuel type,
(3) average fuel gravity for each fuel type.

(b) To document compliance with Condition D.7.8, the Permittee shall maintain records for the leak monitoring program. These records shall include, at a minimum, the data in 326 IAC 8-4-8(k);

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.7.12 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the CFHU.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #11 Pipe Still (11 PS) process heaters, which include:

(a) Process Heater H-1X, with a burner capacity of 250 million Btu per hour.

(b) Process Heater H-2, with a burner capacity of 45 million Btu per hour.

(c) Process Heater H-3, with a burner capacity of 55 million Btu per hour.

(d) Process Heaters H-101, H-102, H-103 and H-104, with a total burner capacity of 200 million Btu per hour.

(e) Process Heater H-200, with a burner capacity of 249.5 million Btu per hour.

(f) Process Heater H-300, with a burner capacity of 180 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1:

(a) PM_{10} emissions from Heater H-1X shall not exceed 0.031 pounds per million Btu heat input and 6.867 pounds per hour. The limit of 6.867 pounds per hour is the more stringent requirement; it equates to a potential to emit 30.08 tons of PM_{10} per year.

(b) PM_{10} emissions from Heater H-2 shall not exceed 0.032 pounds per million Btu heat input and 1.440 pounds per hour. These limits both equate to a potential to emit 6.31 tons of PM_{10} per year.

(c) PM_{10} emissions from Heater H-3 shall not exceed 0.031 pounds per million Btu heat input and 1.704 pounds per hour. The limit of 1.704 pounds per hour is the more stringent requirement; it equates to a potential to emit 7.46 tons of PM_{10} per year.

(d) PM_{10} emissions from Heaters H-101, H-102, H-103 and H-104 shall not exceed 0.004 pounds per million Btu heat input and a total of 0.741 pounds per hour. The limit of 0.741 pounds per hour is the more stringent requirement; it equates to a potential to emit 3.25 tons of PM_{10} per year for the total of heaters.

(e) PM_{10} emissions from Heater H-200 shall not exceed 0.032 pounds per million Btu heat input and 7.866 pounds per hour. The limit of 7.866 pounds per hour is the more stringent requirement; it equates to a potential to emit 34.45 tons of PM_{10} per year.

(f) PM_{10} emissions from Heater H-300 shall not exceed 0.031 pounds per million Btu heat input and 4.931 pounds per hour. The limit of 4.931 pounds per hour is the more stringent requirement; it equates to a potential to emit 7.46 tons of PM_{10} per year.

D.8.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Heater H-1X shall not exceed 0.407 pounds per million Btu heat input. This requirement is superseded by more stringent sulfur dioxide conditions elsewhere in this permit.

(b) Sulfur dioxide emissions from Heater H-2 shall not exceed 0.418 pounds per million Btu heat input. This limit equates to a potential to emit 82.39 tons of sulfur dioxide per year.

(c) Sulfur dioxide emissions from Heater H-3 shall not exceed 0.404 pounds per million Btu heat input. This limit equates to a potential to emit 97.32 tons of sulfur dioxide per year.

(d) Sulfur dioxide emissions from Heaters H-101, H-102, H-103 and H-104 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 28.91 tons of sulfur dioxide per year for the total of heaters.

(e) Sulfur dioxide emissions from Heater H-200 shall not exceed 0.411 pounds per million Btu heat input. This limit equates to a potential to emit 449.14 tons of sulfur dioxide per year.

(f) Sulfur dioxide emissions from Heater H-300 shall not exceed 0.402 pounds per million Btu heat input. This requirement is superseded by more stringent sulfur dioxide conditions elsewhere in this permit.

D.8.3 Operation Permit Requirements

Pursuant to Operation Permit 089-3053-00003, issued on March 31, 1994:

(a) Sulfur dioxide emissions from Heater H-1X shall not exceed 0.358 pounds per million Btu heat input. This limit equates to a potential to emit 392.01 tons of sulfur dioxide per year.

(b) Sulfur dioxide emissions from Heater H-300 shall not exceed 0.357 pounds per million Btu heat input. This limit equates to a potential to emit 281.46 tons of sulfur dioxide per year.

D.8.4 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.8.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.8.6 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the #11 Pipe Still.

D.8.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.8.8 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.8.9 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.8.10 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.8.11 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.8.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type,
(3) average fuel gravity for each fuel type, and
(4) total fuel usage for each type.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.8.12 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for the pipe still, and
(2) the total daily fuel usage for each fuel type.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Catalytic Refining Unit (CRU) process heaters, which include:

(a) Process Heater F-101, with a burner capacity of 72 million Btu per hour.

(b) Process Heater F-102A, with a burner capacity of 60 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1:

(a) PM_{10} emissions from Heater F-101 shall not exceed 0.004 pounds per million Btu heat input and 0.267 pounds per hour. The limit of 0.267 pounds per hour is the more stringent requirement; it equates to a potential to emit 1.17 tons of PM_{10} per year.

(b) PM_{10} emissions from Heater F-102A shall not exceed 0.004 pounds per million Btu heat input and 0.290 pounds per hour. The limit of 0.004 pounds per million Btu is the more stringent requirement; it equates to a potential to emit 1.05 tons of PM_{10} per year.

D.9.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Heater F-101 shall not exceed 0.04 pounds per million Btu heat input. This limit equates to a potential to emit 12.61 tons of sulfur dioxide per year.

(b) Sulfur dioxide emissions from Heater F-102A shall not exceed 0.04 pounds per million Btu heat input. This limit equates to a potential to emit 10.51 tons of sulfur dioxide per year.

D.9.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.9.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.9.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the CRU.

D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.9.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.9.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.9.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Isomerization Unit process heater:

(a) Process Heater H-1, with a burner capacity of 190 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.10.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from Heater H-1 shall not exceed 0.004 pounds per million Btu heat input and 0.704 pounds per hour. The limit of 0.704 pounds per hour is the more stringent requirement; it equates to a potential to emit 3.08 tons of PM_{10} per year.

D.10.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from Heater H-1 shall not exceed 0.034 pounds per million Btu heat input. This limit equates to a potential to emit 28.29 tons of sulfur dioxide per year.

D.10.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.10.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.10.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the Isomerization Unit.

D.10.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.10.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.10.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.10.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.10.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.10.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the Isomerization Unit.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #3 Ultraformer Unit process heaters, which include:

(a) Process Heater H-1, with a burner capacity of 240 million Btu per hour.

(b) Process Heater H-2, with a burner capacity of 185 million Btu per hour.

(c) Process Heater F-7, with a burner capacity of 23 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1

(a) PM_{10} emissions from Heater H-1 shall not exceed 0.004 pounds per million Btu heat input and 0.852 pounds per hour. The limit of 0.852 pounds per hour is the more stringent requirement; it equates to a potential to emit 3.73 tons of PM_{10} per year.

(b) PM_{10} emissions from Heater H-2 shall not exceed 0.004 pounds per million Btu heat input and 0.685 pounds per hour. The limit of 0.685 pounds per hour is the more stringent requirement; it equates to a potential to emit 3.00 tons of PM_{10} per year.

(c) PM_{10} emissions from Heater F-7 shall not exceed 0.004 pounds per million Btu heat input and 0.085 pounds per hour. The limit of 0.085 pounds per hour is the more stringent requirement; it equates to a potential to emit 0.37 tons of PM_{10} per year.

D.11.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Heater H-1 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 34.69 tons of sulfur dioxide per year.

(b) Sulfur dioxide emissions from Heater H-2 shall not exceed 0.034 pounds per million Btu heat input. This limit equates to a potential to emit 27.55 tons of sulfur dioxide per year.

(c) Sulfur dioxide emissions from Heater F-7 shall not exceed 0.035 pounds per million Btu heat input. This limit equates to a potential to emit 3.53 tons of sulfur dioxide per year.

D.11.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.11.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.11.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the #3 Ultraformer Unit.

D.11.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.11.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.11.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.11.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.11.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.11.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.11.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the #3 Ultraformer Unit.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #4 Ultraformer Unit process heaters, which include:

(a) Process Heater F-1, with a burner capacity of 68 million Btu per hour.

(b) Process Heater F-8A, with a burner capacity of 163 million Btu per hour.

(c) Process Heater F-8B, with a burner capacity of 163 million Btu per hour.

(d) Process Heater F-2, with a burner capacity of 286 million Btu per hour.

(e) Process Heater F-3, with a burner capacity of 242 million Btu per hour.

(f) Process Heater F-4, with a burner capacity of 137 million Btu per hour.

(g) Process Heater F-5, with a burner capacity of 99 million Btu per hour.

(h) Process Heater F-6, with a burner capacity of 49 million Btu per hour.

(i) Process Heater F-7, with a burner capacity of 52 million Btu per hour.

Process Heaters F-1, F-8A and F-8B share a common stack, identified as 224-01
Process Heaters F-4, F-5 and F-6 share a common stack, identified as 224-04.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.12.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1

(a) PM_{10} emissions from Heaters F-1, F-8A and F-8B shall not exceed 0.004 pounds per million Btu heat input and a total of 1.459 pounds per hour. The limit of 1.459 pounds per hour is the more stringent requirement; it equates to a potential to emit 6.39 tons of PM_{10} per year for the total of heaters.

(b) PM_{10} emissions from Heater F-2 shall not exceed 0.004 pounds per million Btu heat input and 1.059 pounds per hour. The limit of 1.059 pounds per hour is the more stringent requirement; it equates to a potential to emit 4.64 tons of PM_{10} per year.

(c) PM_{10} emissions from Heater F-3 shall not exceed 0.004 pounds per million Btu heat input and 0.896 pounds per hour. The limit of 0.896 pounds per hour is the more stringent requirement; it equates to a potential to emit 3.92 tons of PM_{10} per year.

(d) PM_{10} emissions from Heaters F-4, F-5 and F-6 shall not exceed 0.004 pounds per million Btu heat input and a total of 1.060 pounds per hour. The limit of 1.060 pounds per hour is the more stringent requirement; it equates to a potential to emit 4.64 tons of PM_{10} per year for the total of heaters.

(e) PM_{10} emissions from Heater F-7 shall not exceed 0.004 pounds per million Btu heat input and 0.159 pounds per hour. The limit of 0.159 pounds per hour is the more stringent requirement; it equates to a potential to emit 0.70 tons of PM_{10} per year.

D.12.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Heater F-1 shall not exceed 0.034 pounds per million Btu heat input, and sulfur dioxide emissions from Heaters F-8A and F-8B shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 57.25 tons of sulfur dioxide per year for the total of heaters.

(b) Sulfur dioxide emissions from Heater F-2 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 41.34 tons of sulfur dioxide per year.

(c) Sulfur dioxide emissions from Heater F-3 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 34.98 tons of sulfur dioxide per year.

(d) Sulfur dioxide emissions from Heaters F-4, F-5 and F-6 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 41.19 tons of sulfur dioxide per year for the total of heaters.

(e) Sulfur dioxide emissions from Heater F-7 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 7.52 tons of sulfur dioxide per year.

D.12.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.12.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.12.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the #4 Ultraformer Unit.

D.12.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.12.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.12.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.12.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.12.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.12.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.12.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the #4 Ultraformer Unit.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.13 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Aromatics Recovery Unit (ARU) process heaters, which include:

(a) Process Heater F-200A, with a burner capacity of 249.5 million Btu per hour.

(b) Process Heater F-200B, with a burner capacity of 249.5 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.13.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from Heaters F-200A and F-200B shall not exceed 0.004 pounds per million Btu heat input and 0.924 pounds per hour for each heater. The limit of 0.924 pounds per hour is the more stringent requirement; it equates to a potential to emit 4.05 tons of PM_{10} per year for each heater.

D.13.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from Heaters F-200A and F-200B shall not exceed 0.035 pounds per million Btu heat input. This limit equates to a potential to emit 38.25 tons of sulfur dioxide per year for each heater.

D.13.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.13.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.13.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the Aromatics Recovery Unit.

D.13.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.13.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.13.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.13.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.13.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.13.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.13.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the Aromatics Recovery Unit Heaters F-200A and F-200B.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.14 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Blending Oil Unit (BOU) process heater:

(a) Process Heater F-401, with a burner capacity of 35 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.14.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from Heater F-401 shall not exceed 0.004 pounds per million Btu heat input and 0.130 pounds per hour. The limit of 0.130 pounds per hour is the more stringent requirement; it equates to a potential to emit 0.57 tons of PM_{10} per year.

D.14.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from Heater F-401 shall not exceed 0.034 pounds per million Btu heat input. This limit equates to a potential to emit 5.21 tons of sulfur dioxide per year.

D.14.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.14.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.14.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the Blending Oil Unit.

D.14.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.14.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.14.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.14.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.14.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.14.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.14.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the Blending Oil Unit Heater F-401.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.15 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #1 Stanolind Power Station (1SPS) boilers, which include:

(a) Boiler #2, with a burner capacity of 240 million Btu per hour.

(b) Boiler #3, with a burner capacity of 265 million Btu per hour.

(c) Boiler #4, with a burner capacity of 265 million Btu per hour.

(d) Boiler #5, with a burner capacity of 265 million Btu per hour.

(e) Boiler #6, with a burner capacity of 265 million Btu per hour.

(f) Boiler #7, with a burner capacity of 265 million Btu per hour.

(g) Boiler #8, with a burner capacity of 240 million Btu per hour.

Boilers #2, #3 and #4 share a common stack, identified as 501-01.
Boilers #5, #6, #7 and #8 share a common stack, identified as 501-02.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.15.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1:

(a) PM_{10} emissions from Boilers #2, #3, and #4 shall not exceed 0.016 pounds per million Btu heat input and a total of 15.809 pounds per hour. The limit of 0.016 pounds per million Btu is the more stringent requirement; it equates to a potential to emit 53.96 tons of PM_{10} per year for the total of boilers.

(b) PM_{10} emissions from Boilers #5, #6, #7 and #8 shall not exceed 0.016 pounds per million Btu heat input and a total of 13.244 pounds per hour. The limit of 13.244 pounds per hour is the more stringent requirement; it equates to a potential to emit 58.01 tons of PM_{10} per year for the total of boilers.

D.15.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1:

(a) Sulfur dioxide emissions from Boilers #2, #3, and #4 shall not exceed 0.2 pounds per million Btu heat input. This limit equates to a potential to emit 674.52 tons of sulfur dioxide per year for the total of boilers.

(b) Sulfur dioxide emissions from Boilers #5, #6, and #7 shall not exceed 0.2 pounds per million Btu heat input. This limit equates to a potential to emit 696.42 tons of sulfur dioxide per year for the total of boilers.

(c) Sulfur dioxide emissions from Boiler #8 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 34.69 tons of sulfur dioxide per year.

D.15.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.15.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.15.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the #1 Stanolind Power Station. This facility shall comply with this condition on and after June 1, 2003.

D.15.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.15.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.15.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.15.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.15.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.15.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type,
(3) average fuel gravity for each fuel type, and
(4) total fuel usage for each type.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.15.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for the #1 Stanolind Power Station, and
(2) the total daily fuel usage for each fuel type.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.16 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The #3 Stanolind Power Station (3SPS) boilers, which include:

(a) Five (5) boilers, designated as Boilers #1, #2, #3, #4, and #6, each with a burner capacity of 575 million Btu per hour.

Each of these boilers has an individual stack, identified as 503-01 through 503-05, respectively.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.16.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from Boilers #1, #2, #3, #4 and #6 shall not exceed 0.03 pounds per million Btu heat input and 17.49 pounds per hour for each boiler. The limit of 0.03 pounds per million Btu is the more stringent requirement; it equates to a potential to emit 75.56 tons of PM_{10} per year for each boiler.

D.16.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from Boilers #1, #2, #3, #4 and #6 shall not exceed 0.4 pounds per million Btu heat input. This limit equates to a potential to emit 1007.4 tons of sulfur dioxide per year for each boiler.

D.16.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.16.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.16.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the #3 Stanolind Power Station. This facility shall comply with this condition on and after June 1, 2003.

D.16.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.16.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

D.16.8 Continuous Monitoring of Emissions [326 IAC 3-5]

326 IAC 3-5 was determined to be applicable. However, there are no limits or restrictions that pertain to this facility.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.16.9 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.16.10 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.16.11 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.16.2, the Permittee shall maintain daily records of the following:

(1) each fuel type used,
(2) average sulfur content for each fuel type,
(3) average fuel gravity for each fuel type, and
(4) total fuel usage for each type.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.16.12 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for the #3 Stanolind Power Station, and
(2) the total daily fuel usage for each fuel type.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.17 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Oil Movements and Product Storage heaters, which include:

(a) Asphalt Heater F-1 (formerly known as the "F-1 Berry Lake Distillate Heater") with a burner capacity of 13 million Btu per hour.

(b) Marine Docks Heater F-100, with a burner capacity of 7 million Btu per hour.

(c) Steiglitz Park Heater F-2, with a burner capacity of 28 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.17.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1]

(a) Pursuant to 326 IAC 6-1-10.1(d), PM_{10} emissions from Asphalt Heater F-1 shall not exceed 0.008 pounds per million Btu heat input and 0.048 pounds per hour. The limit of 0.048 pounds per hour is the more stringent requirement; it equates to a potential to emit 0.21 tons of PM_{10} per year.

(b) Pursuant to 326 IAC 6-1-10.1(h):

(1) Marine Docks Heater F-100 shall only burn natural gas as fuel.
(2) PM_{10} emissions from Marine Docks Heater F-100 shall not exceed 0.003 pounds per million Btu heat input and 0.020 pounds per hour. These limits equate to a potential to emit 0.09 tons of PM_{10} per year.

(c) Pursuant to 326 IAC 6-1-10.1(d), PM_{10} emissions from Steiglitz Park Heater F-2 shall not exceed 0.008 pounds per million Btu heat input and 0.208 pounds per hour. The limit of 0.208 pounds per hour is the more stringent requirement; it equates to a potential to emit 0.91 tons of PM_{10} per year.

D.17.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1(c):

(a) sulfur dioxide emissions from Asphalt Heater F-1 shall not exceed 0.033 pounds per million Btu heat input. This limit equates to a potential to emit 1.88 tons of sulfur dioxide per year.

(b) sulfur dioxide emissions from Marine Docks Heater F-100 shall not exceed 0.013 pounds per million Btu heat input. This limit equates to a potential to emit 0.40 tons of sulfur dioxide per year.

(c) sulfur dioxide emissions from Steiglitz Park Heater F-2 shall not exceed 0.328 pounds per million Btu heat input. This limit equates to a potential to emit 40.23 tons of sulfur dioxide per year.

D.17.3 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heaters any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.17.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.17.5 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for these process heaters.

(a) Asphalt Heater F-1 and Marine Docks Heater F-100 shall comply with this condition on and after permit issuance.

(b) Steiglitz Park Heater F-2 shall comply with this condition on and after June 1, 2003.

D.17.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.17.7 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when the a process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.17.8 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.17.9 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

D.17.10 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.17.2, the Permittee shall maintain daily records of the following for the Asphalt Heater F-1 and the Marine Docks Heater F-100:

(1) each fuel type used,
(2) average sulfur content for each fuel type, and
(3) average fuel gravity for each fuel type

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.17.11 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the average daily sulfur dioxide emission rate for the Asphalt Heater F-1 and the Marine Docks Heater F-100.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.18 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Hydrogen Unit process heater:

(a) Process Heater B-501 (formerly known as "Hydrogen Unit B-1") with a burner capacity of 366.3 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.18.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1] [326 IAC 6-2-1(e)]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from Heater B-501 shall not exceed 0.009 pounds per million Btu heat input and 3.340 pounds per hour. These limits prevail over the requirements specified in 326 IAC 6-2. The limit of 3.340 pounds per hour is the more stringent requirement; it equates to a potential to emit 14.44 tons of PM_{10} per year.

D.18.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Heater B-501 shall only burn refinery process gas, natural gas and/or liquified propane gas as fuel. This condition will ensure that 326 IAC 7-1.1 is not applicable, subsequently rendering 326 IAC 7-4-1.1(a) as not applicable.

D.18.3 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to Construction Permit 089-2055, issued on March 12, 1992:

(a) Nitrogen oxide emissions from Process Heater B-501 shall not exceed 0.078 pounds per million Btu heat input. This limit equates to a potential to emit 125.14 tons of nitrogen oxides per year.

Furthermore, the following emission units shall remain inoperative unless new approval is obtained:

(1) Propane Dewaxing Unit
(2) #2 and #3 Asphalt Oxidizers

(b) Carbon monoxide emissions from Process Heater B-501 shall not exceed 0.02 pounds per million Btu heat input. This limit equates to a potential to emit 32.09 tons of nitrogen oxides per year.

This condition renders the requirements of PSD as not applicable for nitrogen oxides and for carbon monoxide.

D.18.4 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in the process heater any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.18.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.18.6 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the Hydrogen Unit.

D.18.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.18.8 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when the process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.18.9 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.18.10 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

SECTION D.19 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The Distillate Desulfurization Unit (DDU) process heaters, which include:

(a) Process Heater WB-301, with a burner capacity of 64.8 million Btu per hour.

(b) Process Heater WB-302, with a burner capacity of 63.7 million Btu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.19.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1] [326 IAC 6-2-1(e)]

Pursuant to 326 IAC 6-1-10.1:

(a) PM_{10} emissions from Heater WB-301 shall not exceed 0.004 pounds per million Btu heat input and 0.250 pounds per hour. The limit of 0.250 pounds per hour is the more stringent requirement; it equates to a potential to emit 1.10 tons of PM_{10} per year.

(b) PM_{10} emissions from Heater WB-302 shall not exceed 0.004 pounds per million Btu heat input and 0.240 pounds per hour. The limit of 0.240 pounds per hour is the more stringent requirement; it equates to a potential to emit 1.05 tons of PM_{10} per year.

These limits prevail over the requirements specified in 326 IAC 6-2.

D.19.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Heaters WB-301 and WB-302 shall only burn refinery process gas, natural gas and/or liquified propane gas as fuel. This condition will ensure that 326 IAC 7-1.1 is not applicable, subsequently rendering 326 IAC 7-4-1.1(a) as not applicable.

D.19.3 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to Construction Permit 089-2055, issued on March 12, 1992:

(a) Nitrogen oxide emissions from Process Heaters WB-301 and WB-302 shall not exceed 0.065 pounds per million Btu heat input. This limit equates to a potential to emit 18.45 tons of nitrogen oxides per year from Heater WB-301 and 18.14 tons of nitrogen oxides per year from Heater WB-302.

Furthermore, the following emission units shall remain inoperative unless new approval is obtained:

(1) Propane Dewaxing Unit
(2) #2 and #3 Asphalt Oxidizers

(b) Carbon monoxide emissions from Process Heaters WB-301 and WB-302 shall not exceed 0.04 pounds per million Btu heat input. This limit equates to a potential to emit 11.35 tons of carbon monoxide per year from Heater WB-301 and 11.16 tons of carbon monoxide per year from Heater WB-302.

This condition renders the requirements of PSD as not applicable for nitrogen oxides and for carbon monoxide.

D.19.4 New Source Performance Standards [326 IAC 12] [40 CFR 60]

Pursuant to 326 IAC 12 (40 CFR 60, Subpart J) the Permittee shall not burn in Heaters WB-301 and WB-302 any fuel gas that contains hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf.

D.19.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.19.6 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL, fuel oil shall not be used as fuel for the Distillate Desulfurization Unit.

D.19.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after the issuance of this permit, the Permittee shall conduct performance tests for H_2S concentration in the fuel gas and furnish the Commissioner a written report of the results of such performance tests.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.19.8 Continuous Monitoring System Required [326 IAC 12] [40 CFR 60.105(a)(4)]

A continuous monitoring system shall be installed and shall be operated at all times when the process heater is in operation. The monitoring system shall continuously measure and record the concentration, on a dry basis, of hydrogen sulfide in fuel gases before being burned.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.19.9 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.19.10 Reporting of Excess Emissions [326 IAC 12] [40 CFR 60.7] [326 IAC 3-5-7]

For the purpose of reports under 40 CFR 60.7, periods of excess emissions shall be determined as all rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system exceeds 0.10 gr/dscf. The rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

SECTION D.20 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Fluidized Catalytic Cracking Unit #500 (FCU 500), rated at 120,000 barrels per day, which includes:

(a) One (1) reactor, where preheated oil feed is mixed with granular catalyst in a flowing stream. This process produces cracked hydrocarbon products and coats the catalyst with coke. Cracked products are sent to a fractionating tower. Spent catalyst is sent to a catalyst regenerator.

(b) One (1) fractionating tower, which separates the cracked products into individual components and directs them to other facilities.

(c) One (1) catalyst regenerator, where coke is burned off in order to allow the catalyst to be reused. Particulate emissions are controlled by one (1) electrostatic precipitator, then exhausted to a stack identified as 230-01.

(d) One (1) flare, used for emergency situations. Emissions are exhausted to a stack identified as 230-02.

(e) Three (3) catalyst storage bins, one each for spent, equilibrium, and fresh catalyst. Particulate emissions from the spent catalyst storage bin, identified as "Bin F-52," are controlled by one (1) cyclone, then exhausted to a stack identified as 230-03.

(f) Associated pumps, valves, and flanges.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.20.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1] [326 IAC 6-2-1(e)]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from FCU 500 shall not exceed 1.22 pounds per thousand pounds of coke burned and 73.2 pounds per hour.

D.20.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1(c), sulfur dioxide emissions from FCU 500 shall not exceed 50 pounds per ton of coke burned.

D.20.3 State Operation Permit Requirements

Pursuant to Operation Permit 45-08-93-0561, issued on January 12, 1990 and amended on October 28, 1992, April 14, 1993 and October 29, 1993:

(a) particulate matter emissions shall not exceed 198 pounds per hour.

(b) sulfur dioxide emissions shall not exceed 1500 pounds per hour.

D.20.4 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

For this facility, the requirements of this condition take precedence over the requirements contained in Section C - Opacity, of this permit :

(a) The requirements of Condition C.4(a) do not apply during periods of soot blowing. Three (3) nonconsecutive 15-minute periods are allowed per day for soot blowing. During soot blowing, visible emissions shall not exceed 60% opacity.

(b) The requirements of Condition C.4(a) do not apply during periods of startup. Startup periods shall not exceed a period of 168 hours per calendar year.

(c) The requirements of Condition C.4(a) do not apply during periods of shutdown. Shutdown periods shall not exceed a period of 48 hours per calendar year.

D.20.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.20.6 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL:

(a) Nitrogen oxide (NO_X) emissions shall be reduced by the use of low-NO_X combustion promoters and NO_X adsorbing additives.

(b) Carbon monoxide emissions from FCU 500 shall not exceed 500 parts per million by volume, on a dry basis.

(c) Sulfur dioxide (SO_2) emissions shall be reduced by the use of SO_2 adsorbing catalyst additives.

FCU 500 shall comply with part (a) of this condition on and after March 31, 2002.

FCU 500 shall comply with part (b) of this condition on and after the date on which FCU 500 is required to comply with the NO_X limit established by EPA pursuant to the Consent Decree, or on and after December 31, 2004, whichever date occurs earlier.

FCU 500 shall comply with part (c) of this condition on and after permit issuance.

D.20.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) The Permittee shall demonstrate the performance of the catalyst additives at the optimized rate over a twelve-month period to yield the lowest NO_X concentration feasible at that optimized rate. The demonstration shall begin no later than June 30, 2002.

(b) Within 60 days of the date on which FCU 500 is required to comply with the final NO_X limit established by EPA pursuant to the Consent Decree, but not later than December 31, 2004, the Permittee shall conduct performance tests for carbon monoxide concentration in the exhaust gas stream and furnish the Commissioner a written report of the results of such performance tests.

(c) The Permittee shall demonstrate the performance of the catalyst additives at the optimized rate over a twelve-month period to yield the lowest SO_2 concentration feasible at that optimized rate. The demonstration shall begin no later than December 31, 2001.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.20.8 Continuous Monitoring System Required

A continuous monitoring system shall be installed and shall be operated at all times when FCU 500 is in operation.

(a) The monitoring system shall measure and record the hourly average concentration, on a dry basis, of carbon monoxide in the exhaust gas stream. Process analyzers, calibrated in accordance with the manufacturer's recommendations, may be used for this purpose.

(b) The monitoring system shall continuously measure and record the concentration of sulfur dioxide in the exhaust gas stream.

D.20.9 Monitoring Requirements for Carbon Monoxide

(a) On and after the date on which FCU 500 is required to comply with the NO_X limit established by EPA pursuant to the Consent Decree, until December 31, 2004, compliance with the carbon monoxide emission limit shall be determined based on a daily average of twenty-four (24) consecutive one-hour averages.

(b) On and after December 31, 2004, compliance with the carbon monoxide emission limit shall be determined based on a one-hour average.

D.20.10 Continuous Opacity Monitor (COM) Required [326 IAC 3-5]

A continuous opacity monitor shall be installed on stack 230-01 and shall be operated at all times when the catalyst regenerator is in operation.

D.20.11 Leaks from Petroleum Refineries; Monitoring; Reports [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the emission source shall develop and conduct a monitoring program addressing the guidelines contained in 326 IAC 8-4-8 (c) through (m).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.20.12 Reporting of Consent Decree Requirements

(a) Prior to beginning a twelve-month NO_X catalyst additive demonstration, the Permittee shall notify OAQ of the optimized catalyst additive addition rate.

(b) No later than sixty (60) days after the completion of a twelve-month NO_X catalyst additive demonstration, the Permittee shall report to OAQ the results of the demonstration.

D.20.13 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.20.14 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.20.2, the Permittee shall maintain daily records of the following:

(1) calculated coke burn for FCU 500, and
(2) sulfur content of the oil feed.

(b) To document compliance with Condition D.20.11, the Permittee shall maintain records

for the leak monitoring program. These records shall include, at a minimum, the data in 326 IAC 8-4-8(k);

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.20.15 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for FCU 500, and
(2) the total daily calculated sulfur dioxide emissions.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.21 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Fluidized Catalytic Cracking Unit #600 (FCU 600), rated at 80,000 barrels per day, which includes:

(a) One (1) reactor, where preheated oil feed is mixed with granular catalyst in a flowing stream. This process produces cracked hydrocarbon products and coats the catalyst with coke. Cracked products are sent to a fractionating tower. Spent catalyst is sent to a catalyst regenerator.

(b) One (1) fractionating tower, which separates the cracked products into individual components and directs them to other facilities.

(c) One (1) catalyst regenerator, where coke is burned off in order to allow the catalyst to be reused. Particulate emissions are controlled by one (1) electrostatic precipitator. Emissions are then directed to a selective catalytic reduction (SCR) system, then exhausted to a stack identified as 240-01.

(d) Two (2) catalyst storage bins, one each for equilibrium and fresh catalyst. (Spent catalyst is stored in Bin F-52, which is associated with FCU 500.)

(e) Associated pumps, valves, and flanges.

(f) One (1) selective catalytic reduction (SCR) system, which chemically reduces nitrogen oxide emissions by reaction with injected ammonia. The SCR system also includes aqueous ammonia storage and handling equipment.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.21.1 Lake County PM_{10} Emission Limitations [326 IAC 6-1-10.1] [326 IAC 6-2-1(e)]

Pursuant to 326 IAC 6-1-10.1, PM_{10} emissions from FCU 600 shall not exceed 1.10 pounds per thousand pounds of coke burned and 55.0 pounds per hour.

D.21.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1(c), sulfur dioxide emissions from FCU 600 shall not exceed 35 pounds per ton of coke burned.

D.21.3 State Operation Permit Requirements

Pursuant to Operation Permit 45-08-93-0562, issued on January 12, 1990 and amended on November 13, 1990 and April 14, 1993:

(a) particulate matter emissions shall not exceed 147.4 pounds per hour.

(b) sulfur dioxide emissions shall not exceed 875 pounds per hour.

D.21.4 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

For this facility, the requirements of this condition take precedence over the requirements contained in Section C - Opacity, of this permit :

(a) The requirements of Condition C.4(a) do not apply during periods of soot blowing. Three (3) nonconsecutive 15-minute periods are allowed per day for soot blowing. During soot blowing, visible emissions shall not exceed 60% opacity.

(b) The requirements of Condition C.4(a) do not apply during periods of startup. Startup periods shall not exceed a period of 120 hours per calendar year.

(c) The requirements of Condition C.4(a) do not apply during periods of shutdown. Shutdown periods shall not exceed a period of 48 hours per calendar year.

D.21.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.21.6 Legal Consent Decree

Pursuant to Consent Decree 2:96 CV 095 RL:

(a) The Permittee shall complete installation and begin operation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_X) from the FCU 600 catalyst regenerator.

(b) Carbon monoxide emissions from FCU 600 shall not exceed 500 parts per million by volume, on a dry basis.

(c) Sulfur dioxide (SO_2) emissions shall be reduced by the use of SO_2 adsorbing catalyst additives.

FCU 600 shall comply with part (a) of this condition on and after the turnaround in 2003.

FCU 600 shall comply with part (b) of this condition on and after the date on which FCU 600 is required to comply with the NO_X limit established by EPA pursuant to the Consent Decree.

FCU 600 shall comply with part (c) of this condition on and after June 30, 2003.

D.21.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) The Permittee shall demonstrate the performance of the SCR system over a six-month period. The six month demonstration shall begin no later than three (3) months after the completion of the installation of the SCR system.

(b) Within 60 days of the date on which FCU 600 is required to comply with the final NO_X limit established by EPA pursuant to the Consent Decree, the Permittee shall conduct performance tests for carbon monoxide concentration in the exhaust gas stream and furnish the Commissioner a written report of the results of such performance tests.

(c) The Permittee shall demonstrate the performance of the catalyst additives at the optimized rate over a twelve-month period to yield the lowest SO_2 concentration feasible at that optimized rate. The demonstration shall begin no later than June 30, 2003.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.21.8 Continuous Monitoring System Required

A continuous monitoring system shall be installed and shall be operated at all times when FCU 600 is in operation.

(a) The monitoring system shall continuously measure and record the concentration of nitrogen oxides in the exhaust gas stream.

(b) The monitoring system shall measure and record the hourly average concentration, on a dry basis, of carbon monoxide in the exhaust gas stream. Process analyzers, calibrated in accordance with the manufacturer's recommendations, may be used for this purpose.

(c) The monitoring system shall continuously measure and record the concentration of sulfur dioxide in the exhaust gas stream.

FCU 600 shall comply with part (a) of this condition on and after the turnaround in 2003.

FCU 600 shall comply with part (b) of this condition on and after permit issuance.

FCU 600 shall comply with part (c) of this condition on and after June 30, 2003.

D.21.9 Monitoring Requirements for Carbon Monoxide

Compliance with the carbon monoxide emission limit shall be determined based on a one-hour average.

D.21.10 Continuous Opacity Monitor (COM) Required [326 IAC 3-5]

A continuous opacity monitor shall be installed on stack 240-01 and shall be operated at all times when the catalyst regenerator is in operation.

D.21.11 Leaks from Petroleum Refineries; Monitoring; Reports [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the emission source shall develop and conduct a monitoring program addressing the guidelines contained in 326 IAC 8-4-8 (c) through (m).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.21.12 Reporting of Consent Decree Requirements

No later than sixty (60) days after the completion of any demonstration, the Permittee shall report to OAQ the results of the demonstration.

D.21.13 Record Keeping Requirements [326 IAC 3-5-6]

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

D.21.14 Record Keeping Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) To document compliance with Condition D.21.2, the Permittee shall maintain daily records of the following:

(1) calculated coke burn for FCU 600, and
(2) sulfur content of the oil feed.

(b) To document compliance with Condition D.21.11, the Permittee shall maintain records for the leak monitoring program. These records shall include, at a minimum, the data in 326 IAC 8-4-8(k);

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.21.15 Reporting Requirements [326 IAC 7-4-1.1(c)(2)(CC)]

(a) Pursuant to 326 IAC 7-4-1.1(c)(2)(CC), the Permittee shall submit reports of the following:

(1) the average daily sulfur dioxide emission rate for FCU 600, and
(2) the total daily calculated sulfur dioxide emissions.

(b) A quarterly summary of the information to document compliance with this condition shall be submitted to the address listed in this permit in Section C - General Reporting Requirements using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-14630-00003

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-14630-00003

This form consists of 2 pages **Page 1 of 2**

Check either No. 1 or No.2

9 1. This is an emergency as defined in 326 IAC 2-7-1(12)
- C The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16

9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(C)
- C The Permittee must submit notice in writing within ten (**10**) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-14630-00003

Facility: #12 Pipe Still
Parameter: Average daily sulfur dioxide emission rate and total daily fuel usage for each fuel type
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Fuel Usage	Day	Average SO_2 Emission Rate	Total Fuel Usage
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-14630-00003

Facility: Catalytic Feed Hydrotreating Unit (CFHU)
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: #11 Pipe Still
Parameter: Average daily sulfur dioxide emission rate and total daily fuel usage for each fuel type.
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Fuel Usage	Day	Average SO_2 Emission Rate	Total Fuel Usage
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: Isomerization Unit
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: #3 Ultraformer Unit
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: #4 Ultraformer Unit
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: Aromatics Recovery Unit (ARU)
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: Blending Oil Unit
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: #1 Stanolind Power Station
Parameter: Average daily sulfur dioxide emission rate and total daily fuel usage for each fuel type.
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Fuel Usage	Day	Average SO_2 Emission Rate	Total Fuel Usage
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: #3 Stanolind Power Station
Parameter: Average daily sulfur dioxide emission rate and total daily fuel usage for each fuel type.
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Fuel Usage	Day	Average SO_2 Emission Rate	Total Fuel Usage
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: Asphalt Heater F-1
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: Marine Docks Heater F-100
Parameter: Average daily sulfur dioxide emission rate
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____

Day	Average SO_2 Emission Rate	Day	Average SO_2 Emission Rate
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: FCU 500
Parameter: Average daily sulfur dioxide emission rate and total daily calculated sulfur dioxide emissions.
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Calculated SO_2 Emissions	Day	Average SO_2 Emission Rate	Total Calculated SO_2 Emissions
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Monthly Report

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-15202-00003

Facility: FCU 600
Parameter: Average daily sulfur dioxide emission rate and total daily calculated sulfur dioxide emissions.
Limit: Quarterly reports are required under 326 IAC 7-4-1.1

Month: _____ **Year:** _____ **Fuel Type:** _____

Day	Average SO_2 Emission Rate	Total Calculated SO_2 Emissions	Day	Average SO_2 Emission Rate	Total Calculated SO_2 Emissions
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY COMPLIANCE MONITORING REPORT

Source Name: BP Products North America, Inc.
Source Address: 2815 Indianapolis Blvd., Whiting, IN 46394-2197
Mailing Address: P.O. Box 710, Whiting, IN 46394-0710
Permit No.: 089-14630-00003

Months: _____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted quarterly. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Part 70 Significant Source Modification

Source Background and Description

Source Name:	**BP Products North America, Inc.** (f.k.a Amoco Whiting Refinery)
Source Location:	**2815 Indianapolis Blvd., Whiting, IN 46394-2197**
County:	**Lake**
SIC Code:	**2911**
Application No.:	**089-15500-00003**
Permit Reviewer:	**Allen R. Davidson**

On August 2, 2002, the Office of Air Quality ("OAQ") had notices published in the *Munster Times* and the *Merrillville Post Tribune* stating that BP Products North America, Inc. ("BP") had applied for a Part 70 Significant Source Modification. The notice also stated that OAQ proposed to issue a permit modification for this operation and provided information on how the public could review the proposed permit modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Lori Washington of BP Products North America, Inc. submitted comments on the proposed permit modification. In addition internal comments were received. The summary of the comments is as follows. Since some comments are similar in nature, they may be grouped together for one response.

Comment 1:

The header of the draft permit should be changed to read "Source Modification" instead of "Permit Modification."

Response 1:

The first line of the permit has been changed to read "Part 70 Significant Source Modification."

Comment 2:

A statement in both the draft permit and the TSD states that the SCR system reduces nitrogen oxide emissions by reaction with injected ammonia and dilution air. This implies that the dilution air reacts with NOx. This is incorrect; the air aids in the distribution of the ammonia.

Response 2:

The words "and dilution air" have been removed from the descriptions of the SCR system in the permit. The change is also acknowledged for the TSD, however, OAQ does not adjust the TSD directly. The original TSD is preserved as a historical record of the initial review when the permit went to public notice. Changes to the TSD are addressed in this addendum.

Comment 3:

Corrections are needed in Appendix A: Emission Calculations - NH_3 Calculations. Delete references to NOx and replace with NH_3

Response 3:

The labels which erroneously read NOx have been replaced with labels which read NH_3.

Comment 4a:

The initial estimate of 5% conversion rate of sulfur dioxide to sulfur trioxide was based upon the original design. BP has since revised the design, and vendor information has reduced the conversion rate to 3%.

The original notification basis was 100% hydrotreated feed to FCU 600. The project team later determined that this was an inappropriate assumption as there would be operating scenarios where that would not be the case. The revised basis assumes non-hydrotreated or "high sulfur feed" to FCU 600. Hydrotreated feed results in a lower emission concentration of SO_2, but a higher concentration of SO_3 as compared to "high sulfur feed".

The catalyst formulation that was selected for the Whiting SCR results in the lower conversion rate of 3%.

Comment 4b:

Pursuant to the Consent Decree, BP is to initiate a twelve-month demonstration period of SO_2 adsorbing catalyst additive no later than June 30, 2003. BP attempted to incorporate the expected 80% SO_2 emission reduction into the permit application. This is inappropriate as the results of the study will be used to determine the ultimate reduction percentage. For this reason, the 437.50 lb/hr emission rate used in the current SO_2 SIP redesignation effort (approximately 50% SO_2 emission reduction) should be used in lieu of 175 lb/hr in the original PM_{10} emission calculations.

Comment 4c:

Corrections are needed in Appendix A: Emission Calculations for the lower sulfur dioxide conversion rate.

Response 4:

Emission calculations have been revised with the following data:

Datum:	Old Value:	New Value:
SO_3 at inlet	14.46 ppm	9.17 ppm
SO_2 at inlet	175 lb/hr	437.5 lb/hr
SO_2 to SO_3 conversion	5%	3%

Also, Page 4 of the TSD should read as follows, according to the revised emission calculations:

Condensible PM_{10} emissions result when sulfur trioxide mixes with rain or water vapor to form sulfuric acid mist. Since the presence of the SCR system converts about ~~5%~~ **3%** of sulfur dioxide to sulfur trioxide, emissions are different before control than at zero slip.

Although the presence of the SCR system converts about ~~5%~~ **3%** of sulfur dioxide to sulfur trioxide, no emission reduction credit is being claimed for sulfur dioxide.

Comment 5:

Potential to emit for PM-10 should be changed from 0 to 94.5 tons per year.

Response 5:

On page 5 of the TSD, the revision's potential to emit for PM was listed at 94.5 tons per year but the PM-10 was listed as 0 tons per year. Both PM and PM-10 should read 123.9 tons per year according to the revised emission calculations.

Comment 6:

BP recommends the following change to the TSD:

This project will reduce emissions of nitrogen oxides far greater than the representative actual annual increase in particulate emissions. The potential to emit is based on "worst case" emissions, which only occurs at the end of the SCR catalyst life. The ~~representative actual~~ **"worst case"** emissions increase is ~~13.4~~ **21.6** pounds per hour (~~58.7~~ **94.5** tons per year).

Response 6:

Representative actual emissions increases are a criteria that OAQ must evaluate under a pollution control project exclusion in a nonattainment area pursuant to 326 IAC 2-3-1(s)(2)(H). Since representative actual emissions increases are not a commonly used criteria, the paragraph was intended to explain that there was a difference between representative actual emissions and potential to emit.

Page 6 of the TSD should read as follows, according to the revised emission calculations:

This project will reduce emissions of nitrogen oxides far greater than the representative actual annual increase in particulate emissions. ~~The potential to emit is based on "worst case" emissions, which only occurs at the end of the SCR catalyst life.~~ The representative actual emissions increase is ~~13.4~~ **24.2** pounds per hour (~~58.7~~ **106.0** tons per year). A preliminary modeling analysis showed that no violation of any national ambient air quality standard (NAAQS) or PSD increment is expected for PM-10 at this level. Therefore, pursuant to 326 IAC 2-3, the Emission Offset rules do not apply.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	**BP Products North America, Inc.** (f.k.a Amoco Whiting Refinery)
Source Location:	**2815 Indianapolis Blvd., Whiting, IN 46394-2197**
County:	**Lake**
SIC Code:	**2911**
Application No.:	**089-15500-00003**
Permit Reviewer:	**Allen R. Davidson**

On April 11, 2002, the Office of Air Quality (OAQ) received an application from BP Products North America, Inc. relating to the addition of a selective catalytic reduction (SCR) emission control to Fluidized Catalytic Cracking Unit #600 (FCU 600).

History

BP Products North America, Inc. submitted a Part 70 permit application for a petroleum refinery on September 30, 1996. This application shall be incorporated in the submitted Part 70 application.

The pending Part 70 application has since received nine revisions:

(a) Minor Source Modification 089-11960-00003, which involved replacing storage tank #3705, was issued on June 6, 2000.

(b) Minor Source Modification 089-11984-00003, which acknowledged removal of the Lubes Unit for an emission reduction credit, was issued on July 20, 2000.

(c) Minor Source Modification 089-14239-00003, which involved a steam sharing plan with Whiting Clean Energy, was issued on May 11, 2001.

(d) Significant Source Modification 089-13846-00003, which involved an additional tail gas unit at its Sulfur Recovery Unit, was issued on June 27, 2001.

(e) Exemption 089-14450-00003, which involved changes to the operation of the #12 Pipe Still and an additional tower for the VRU 300 Merox Treating Section, was issued on July 18, 2001.

(f) Significant Source Modification 089-14210-00453, which involved the addition of two (2) soil remediation units at the south tank field, was issued on September 13, 2001. This modification is also an Emission Offset Permit pursuant to 326 IAC 2-3.

(g) Significant Source Modification 089-14630-00003, which involved changes at the Catalytic Feed Hydrotreating Unit (CFHU) to increase the rated capacity to 100,000 barrels per day, was issued on November 30, 2001. This modification also made the requirements of Exemption 089-14450-00003 federally enforceable.

(h) Administrative Amendment 089-15525-00003, which amended Significant Source Modification 089-13846-00003 to include a modular degassing unit to eliminate sulfur pit

emissions and to change permit language to more closely follow the New Source Performance Standards Subpart J, was issued on April 15, 2002.

(i) Significant Permit Modification 189-15202-00003, which eliminates fuel oil usage at all heaters and boilers on or before June 1, 2003, subjects fuel gas usage to the New Source Performance Standards (NSPS) Subpart J, and subjects the two Fluidized Catalytic Cracking Units FCU 500 and FCU 600 to carbon monoxide limits, was issued on April 24, 2002. It modified Significant Source Modification 089-14630-00003.

This application is the tenth revision to the Part 70 permit application. It seeks to further modify Significant Source Modification 089-14630-00003. The following changes are being proposed for Significant Source Modification 089-14630-00003:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This source modification involves the following emission units and pollution control devices:

(Items (a) through (o) are unchanged.)

(p) Fluidized Catalytic Cracking Unit #600 (FCU 600), rated at 80,000 barrels per day, which includes:

(1) One (1) reactor, where preheated oil feed is mixed with granular catalyst in a flowing stream. This process produces cracked hydrocarbon products and coats the catalyst with coke. Cracked products are sent to a fractionating tower. Spent catalyst is sent to a catalyst regenerator.

(2) One (1) fractionating tower, which separates the cracked products into individual components and directs them to other facilities.

(3) One (1) catalyst regenerator, where coke is burned off in order to allow the catalyst to be reused. Particulate emissions are controlled by one (1) electrostatic precipitator. **Emissions are then directed to a selective catalytic reduction (SCR) system**, then exhausted to a stack identified as 240-01.

(4) Two (2) catalyst storage bins, one each for equilibrium and fresh catalyst. (Spent catalyst is stored in Bin F-52, which is associated with FCU 500.)

(5) Associated pumps, valves, and flanges.

(6) One (1) selective catalytic reduction (SCR) system, which chemically reduces nitrogen oxide emissions by reaction with injected ammonia and dilution air. The SCR system also includes aqueous ammonia storage and handling equipment.

C.6 Operation of Equipment [326 IAC 2-7-6(6)] **[326 IAC 1-6-4]**

(a) The Permittee shall be responsible for operating and maintaining all emission units and emission control equipment in compliance with all applicable rules. Emissions temporarily exceeding the standards which are due to malfunctions of emission units or emission control equipment shall not be considered a violation of the rules provided the source demonstrates that:

(1) All reasonable measures were taken to correct, as expeditiously as practicable, the conditions causing the emissions to exceed the allowable limits, including the use of off-shift and over-time labor, if necessary.

(2) All possible steps were taken to minimize the impact of the excessive emissions on ambient air quality which may include, but not be limited to, curtailment of operation and/or shutdown of the facility.

(3) Malfunctions have not exceeded five percent (5%), as a guideline, of the normal operational time of the facility.

(4) The malfunction is not due to the negligence of the operator.

(b) Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that an emission unit vented to the control equipment is in operation **and shall not be bypassed, unless:**

(1) It is necessary to prevent damage to equipment or injury to persons; or

(2) There is a malfunction and the requirements set forth in part (a) of this condition are met.

(c) Excessive emissions shall be brought into compliance with all practicable speed, and appropriate action, including those actions set forth above, shall be taken:

(1) to correct the conditions causing such emissions to exceed applicable limits;

(2) to reduce the frequency of occurrence of such conditions,

(3) to minimize the amount by which said limits are exceeded, and

(4) to reduce the length of time for which said limits are exceeded.

These actions shall be initiated as expeditiously as practicable.

Enforcement Issues

This application is being sought in order to comply with a consent decree between BP Exploration & Oil Company, Amoco Oil Company, and Atlantic Richfield Company, and the U.S. EPA and nine states including Indiana. Among other requirements, the consent decree:

(a) requires all Claus trains at the sulfur recovery plant be subject to NSPS Subpart J. (This item was addressed in Significant Source Modification 089-13846-00003.)

(b) requires all fuel gas fired heaters and boilers be subject to NSPS Subpart J, on or before December 31, 2001. (This item was addressed in Significant Source Modification 089-14630-00003 and Significant Permit Modification 189-15202-00003.)

(c) requires installation of a supplemental tail gas unit in order to achieve continuous compliance. (This item was addressed in Significant Source Modification 089-13846-00003.)

(d) requires installation and monitoring of a SO_2 CEMS on the stack of the bypass incinerator.

(e) requires elimination of all fuel oil burning at the heaters and boilers, on or before June 1, 2003. (This item was addressed in Significant Source Modification 089-13846-00003, Exemption 089-14450-00003, Significant Source Modification 089-14630-00003 and

Significant Permit Modification 189-15202-00003.)

(f) requires at least 30% of the heat input capacity for all heaters and boilers greater than 40 million Btu per hour use NO_X emission control technologies approved in the consent decree. (This item was addressed in Significant Source Modification 089-13846-00003 and will be addressed in future modifications.)

(g) places limits and restrictions on Fluidized Catalytic Cracking Units 500 and 600. (The carbon monoxide limits were addressed in Significant Permit Modification 189-15202-00003. Nitrogen oxide requirements were addressed in Significant Permit Modification 189-15202-00003 and will be addressed in this modification. Sulfur dioxide requirements will be addressed in future modifications.)

Stack Summary

Stack information will be unchanged as a result of this application.

Recommendation

The staff recommends to the Commissioner that the revision be approved as a significant source modification. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 11, 2002.

Emission Calculations

"Ammonia slip" refers to the amount of excess ammonia remaining in the effluent gas stream after nitrogen oxides have been reduced to nitrogen and water. Ideally there should be no ammonia slip but 10 ppmvd (parts per million by volume, dry basis) is normal. The slip rate could reach 20 ppmvd when the SCR system reaches the end of its five-year catalyst life.

Condensible PM_{10} emissions result when sulfur trioxide mixes with rain or water vapor to form sulfuric acid mist. Since the presence of the SCR system converts about 5% of sulfur dioxide to sulfur trioxide, emissions are different before control than at zero slip.

Sulfuric acid reacts with ammonia to convert to ammonium bisulfate. Because ammonium bisulfate has a higher molecular weight than sulfuric acid, a further increase in condensible PM_{10} emissions is expected in the presence of ammonia slip.

Condensible PM_{10} emissions were calculated before the addition of the SCR system and after its addition assuming ammonia slip rates of 0, 10 and 20 ppmvd at 0% excess oxygen. 20 ppmvd ammonia slip is the "worst case" for PM_{10} emissions.

Although the presence of the SCR system converts about 5% of sulfur dioxide to sulfur trioxide, no emission reduction credit is being claimed for sulfur dioxide.

See Appendix A of this document for detailed emissions calculations. (3 pages)

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

The following table reflects the existing source potential to emit. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit:

Pollutant	Potential To Emit (tons/year)
PM	4,900
PM-10	4,900
SO_2	15,000
VOC	5,500
CO	361,800
NO_X	10,200

HAP's	Potential To Emit (tons/year)
Single	>10
TOTAL	>25

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of criteria pollutants is equal to or greater than 100 tons per year. The potential to emit a single hazardous air pollutant (HAP) is equal to or greater than ten (10) tons per year and the potential to emit a combination of HAP is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

This existing source is a major source for Prevention of Significant Deterioration, 326 IAC 2-2. It is in one of the 28 source categories and pollutants have the potential to emit at a rate of 100 tons per year or more.

Pursuant to PSD and Emission Offset, the revision's potential to emit is as follows:

Pollutant	Potential To Emit (tons/year)	PSD/Offset Significant Level (tons/yr)
PM	94.5	exempt
PM-10	94.5	exempt
SO_2	0	exempt
VOC	0	exempt
CO	0	exempt
NO_X	- 408.8	exempt

HAP	Potential To Emit (tons/year)	PSD Significant Level (tons/yr)
TOTAL	0	n/a

This project conforms to the definition of a "pollution control project" under the following:

(a) 326 IAC 2-1.1-1(13)(A)(iii).

(b) 326 IAC 2-2.5-2(b)(1)(C).

(c) 326 IAC 2-3-1(y)(3).

Pursuant to 326 IAC 2-2.5-1(a), projects classifiable as pollution control projects under 326 IAC 2-2.5-2(b) do not constitute a major modification under 326 IAC 2-2-1(x). Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Pursuant to 326 IAC 2-3-1(s)(2)(H), projects classifiable as pollution control projects under 326 IAC 2-3-1(y) do not constitute a major modification provided the following conditions are met:

(a) OAQ does not determine that such addition, replacement, or use renders the unit less environmentally beneficial.

(b) OAQ does not determine that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of Title I of the CAA, if any.

(c) OAQ does not determine that the pollution control project would result in a significant net emissions increase that will cause or contribute to a violation of any national ambient air quality standard (NAAQS), PSD increment, or visibility limitation.

This project will reduce emissions of nitrogen oxides far greater than the representative actual annual increase in particulate emissions. The potential to emit is based on "worst case" emissions, which only occurs at the end of the SCR catalyst life. The representative actual emissions increase is 13.4 pounds per hour (58.7 tons per year). A preliminary modeling analysis showed that no violation of any national ambient air quality standard (NAAQS) or PSD increment is expected for PM-10 at this level. Therefore, pursuant to 326 IAC 2-3, the Emission Offset rules do not apply.

Pursuant to 326 IAC 2-2.5-1(b) and 326 IAC 2-3-1(s)(2)(H)(iii), a pollution control project shall be considered a significant source modification under 326 IAC 2-7-10.5(f)(8).

County Attainment Status

The source is located in Lake County:

Pollutant	Status
PM-10	nonattainment (moderate)
SO_2	nonattainment (primary)
NO_2	attainment
Ozone	nonattainment (severe)
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for ozone. VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

Lake County has also been classified as non-attainment for sulfur dioxide (SO_2) and particulate matter less than 10 microns in diameter (PM-10). Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

Lake County has been classified as attainment for carbon monoxide (CO) and oxides of nitrogen (NO_X) . Therefore, CO and NO_X emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this application.

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14 and 40 CFR Part 63) applicable to this application.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it is located in one of the eight counties listed in the rule and it has the potential to emit more than ten (10) tons per year of volatile organic compounds or nitrogen oxides. Pursuant to this rule, the source must annually submit an emission statement for the source. The annual statement must contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - FCU 600

326 IAC 6-1-10.1 (Lake County PM_{10} Emission Requirements)

Pursuant to 326 IAC 6-1-10.1, filterable PM_{10} emissions from FCU 600 shall not exceed 1.10 pounds per thousand pounds of coke burned and 55.0 pounds per hour. However, the SCR system only involves condensible PM_{10}.

326 IAC 7-4-1.1 (Lake County Sulfur Dioxide Emission Limitations)

Pursuant to 326 IAC 7-4-1.1(c), sulfur dioxide emissions from FCU 600 shall not exceed 35 pounds per ton of coke burned.

326 IAC 5-1-3 (Temporary Alternative Opacity Limitations)

For this facility, the requirements of this condition take precedence over 326 IAC 5-1-2:

(a) The requirements of 326 IAC 5-1-2(2) do not apply during periods of soot blowing. Three (3) nonconsecutive 15-minute periods are allowed per day for soot blowing. During soot blowing, visible emissions shall not exceed 60% opacity.

(b) The requirements of 326 IAC 5-1-2(2) do not apply during periods of startup. Startup periods shall not exceed a period of 120 hours per calendar year.

(c) The requirements of 26 IAC 5-1-2(2) do not apply during periods of shutdown. Shutdown periods shall not exceed a period of 48 hours per calendar year.

326 IAC 3-5 (Continuous Monitoring of Emissions)

A continuous opacity monitor shall be installed on stack 240-01 and shall be operated at all times when the catalyst regenerator is in operation.

Conclusion

The construction and operation of the SCR emission control shall be subject to the conditions of the attached Significant Source Modification, No 089-15500-00003.

Appendix A: Emission Calculations

Company Name: BP Products North America, Inc.
Address City IN Zip: 2815 Indianapolis Blvd. Whiting, IN 46394-2197
ID: 089-15202-00003
Reviewer: Allen R. Davidson
Date: 10/21/02

Molecular weight of hydrogen (H):	1	lb/mol	Molecular weight of sulfuric acid (H_2SO_4):	98	lb/mol
Molecular weight of nitrogen (N):	14	lb/mol	Molecular weight of ammonia (NH_3):	17	lb/mol
Molecular weight of oxygen (O):	16	lb/mol	Molecular weight of sulfur dioxide (SO_2):	64	lb/mol
Molecular weight of sulfur (S):	32	lb/mol	Molecular weight of sulfur trioxide (SO_3):	80	lb/mol
			Molecular weight of ammonium bisulfate (NH_4HSO_4):	115	lb/mol
			Molecular weight of ammonium sulfate ($(NH_4)_2SO_4$):	132	lb/mol

Emissions of sulfur trioxide (directly):

$$\frac{9.17 \text{ part } SO_3 * 173700 \text{ scf} * 80 \text{ lb} * \text{mol} * 60 \text{ min}}{1000000 \text{ min} \quad \text{mol} \quad 379 \text{ scf} \quad \text{hr}} = 20.17 \frac{\text{lb } SO_3}{\text{hr}}$$

SO_3 reacts with H_20 to become H_2SO_4:

$$\frac{98 \text{ lb/mol} * 20.17 \text{ lb } SO_3}{80 \text{ lb/mol} \quad \text{hr}} = 24.71 \frac{\text{lb } H_2SO_4}{\text{hr}}$$

PM-10 before controls: 24.71 lb / hr

Emissions of sulfur trioxide (conversion from sulfur dioxide due to SCR catalyst):

$$\frac{3\% \text{ converts} * 80 \text{ lb/mol} * 437.5 \text{ lb } SO_2}{64 \text{ lb/mol} \quad \text{hr}} = 16.41 \frac{\text{lb } SO_3}{\text{hr}}$$

Total of sulfur trioxide emissions: 36.58 lb SO_3 / hr

SO_3 reacts with H_20 to become H_2SO_4:

$$\frac{98 \text{ lb/mol} * 36.58 \text{ lb } SO_3}{80 \text{ lb/mol} \quad \text{hr}} = 44.81 \frac{\text{lb } H_2SO_4}{\text{hr}}$$

Total PM-10 at 0 ppmvd ammonia slip: 44.81 lb / hr

With ammonia, sulfuric acid converts to ammonium bisulfate:

Stack 240-01 Water: 30.52 % by volume
Stack 240-01 Oxygen: 1.82 % by volume

Adjust oxygen for dry basis: $\frac{1.82}{(1 - 30.52\%)} =$ 2.62 % oxygen on a dry basis

NH_3 corrected to 2.62 % oxygen on a dry basis:

$$\frac{10 \text{ ppm } NH_3 * (20.9 - 2.62)}{20.9} = 8.75 \text{ ppm } NH_3 \text{ at 0\% oxygen}$$

$$\frac{8.75 \text{ part } NH_3 * 173700 \text{ scf} * 115 \text{ lb} * \text{mol} * 60 \text{ min}}{1000000 \text{ min} \quad \text{mol} \quad 379 \text{ scf} \quad \text{hr}} = 27.66 \frac{\text{lb } NH_4HSO_4}{\text{hr}}$$

Sulfuric acid emissions remaining:

$$44.81 \frac{\text{lb } H_2SO_4}{\text{hr}} \text{ (before change)} - 27.66 \frac{\text{lb } NH_4HSO_4}{\text{hr}} * \frac{98 \text{ lb/mol}}{115 \text{ lb/mol}} = 21.24 \frac{\text{lb } H_2SO_4}{\text{hr}}$$

Total PM-10 at 10 ppmvd ammonia slip: 48.90 lb / hr

NH_3 corrected to 2.62 % oxygen on a dry basis:

$$\frac{20 \text{ ppm } NH_3 * (20.9 - 2.62)}{20.9} = 17.49 \text{ ppm NOx at 0\% oxygen}$$

$$\frac{17.49 \text{ part } NH_3 * 173700 \text{ scf} * 115 \text{ lb} * \text{mol} * 60 \text{ min}}{1000000 \text{ min} \quad \text{mol} \quad 379 \text{ scf} \quad \text{hr}} = 55.32 \frac{\text{lb } NH_4HSO_4}{\text{hr}}$$

Sulfuric acid emissions remaining:

$$44.81 \frac{\text{lb } H_2SO_4}{\text{hr}} \text{ (before change)} - 55.32 \frac{\text{lb } NH_4HSO_4}{\text{hr}} * \frac{98 \text{ lb/mol}}{115 \text{ lb/mol}} = -2.33 \frac{\text{lb } H_2SO_4}{\text{hr}}$$

Total PM-10 at 20 ppmvd ammonia slip: 52.99 lb / hr

Difference at worst case 28.28 lb/hr (123.85 ton/yr)

BP Products North America, Inc. 089-15202-00003
2815 Indianapolis Blvd. Whiting, IN 46394-2197 10/21/02

Emissions of nitrogen oxides:

Total NO_X before control:	115.48 lb / hr

NOx limit corrected to 2.62 % oxygen on a dry basis

$$\frac{20 \text{ ppm NOx} * (20.9 - 2.62)}{20.9} = 17.49 \text{ ppm NOx at 0\% oxygen}$$

$$\frac{17.49 \text{ part } NO_X * 173700 \text{ scf} * 46 \text{ lb} * \text{mol} * 60 \text{ min}}{1000000 \text{ min} \quad \text{mol} \quad 379 \text{ scf} \quad \text{hr}} = 22.13 \frac{\text{lb } NO_X}{\text{hr}}$$

Total NO_X after control:	22.13 lb / hr

Difference: -93.35 lb/hr (-408.88 ton/yr)